AMENDMENTS TO THE CLAIMS:

This listing of claims will replace all prior versions and listings of claims in the application:

1. (Currently Amended): A method in an ATM switch comprising:

generating a connection table in a memory;

generating a multicast master entry in said connection table, said multicast master entry holding address locations at which multicast ATM cells are stored, said multicast master entry including a limit field and a count field;

generating one or more multicast member entries associated with said multicast master entry in said connection table, each multicast member entry identifying a destination connection on which said multicast ATM cells are to be transmitted;

initializing said count field in said multicast master entry;

incrementing said count field each time a multicast ATM cell is received for said multicast master entry;

decrementing said count field each time a multicast ATM cell is transmitted to said destination connection of one of said one or more multicast member entries;

setting said limit field in said multicast master entry to a predetermined value; and

indicating said multicast master entry inactive according to a comparison between the count field and the limit field.

2. (Currently Amended): The method of claim 1, further comprising:

~~incrementing said count field each time a multicast ATM cell is received for said multicast master entry;~~

~~decrementing said count field each time a multicast ATM cell is transmitted to said destination connection of one of said one or more multicast member entries; and~~

if said value in said count field is equal to or greater than said value in said limit field, designating a first one of said multicast member entries currently being transmitted as inactive.

3. (Original): The method of claim 2, further comprising:

removing said first one of said multicast member entries from said connection table when said first one of said multicast member entries is designated as inactive.

4. (Original): The method of claim 2, wherein when said first one of said multicast member entries designated as inactive is the only multicast member entry associated with said multicast master entry, said method further comprises:

removing a cell queue containing ATM cells associated with said multicast master entry.

5. (Original): The method of claim 2, wherein when said first one of said multicast member entries designated as inactive is the only multicast member entry associated with said multicast master entry, said method further comprises:

ceasing receipt of incoming ATM cells associated with said multicast master entry.

6. (Original): The method of claim 2, wherein said decrementing said count field comprises:

setting said count field to zero each time an ATM cell is transmitted.

7. (Original): The method of claim 2, wherein said comparing a value in said count field is carried out each time a multicast ATM is received.

8. (Previously Presented): A method in an ATM switch comprising:

generating a connection table in a memory;

generating a multicast master entry in said connection table, said multicast master entry holding address locations at which multicast ATM cells are stored, said multicast master entry including a limit field and a count field;

generating one or more multicast member entries associated with said multicast master entry in said connection table, each multicast member entry identifying a destination connection on which said multicast ATM cells are to be transmitted;

initializing said count field in said multicast master entry;

setting said limit field in said multicast master entry to a predetermined value;

incrementing said count field each time a multicast ATM cell is received for said multicast master entry;

decrementing said count field each time a multicast ATM cell is transmitted to said destination connection of one of said one or more multicast member entries;

comparing a value in said count field with said value in said limit field; and

if said value in said count field is equal to or greater than said value in said limit field, designating a first one of said multicast member entries currently being transmitted as inactive,

wherein said designating a first one of said multicast member entries currently being transmitted as inactive comprises:

providing a multicast field in said multicast master entry, said multicast field including one or more data bits, each data bit associated with one multicast member entry;

setting data bits in said multicast field to a first value to activate each of said associated multicast member; and

setting a first one of said data bits in said multicast field to a second value to deactivate said first one of said multicast member entries.

9. (Currently Amended): An ATM switch, comprising:

a memory;

a control circuit for maintaining in said memory a connection table, said connection table including a multicast master entry and one or more multicast member entries associated with said multicast master entry;

said multicast master entry holding address locations at which multicast ATM cells are stored, and including a limit field and a count field; and

said one or more multicast member entries identifying a destination connection on which said multicast ATM cells are to be transmitted;

wherein said limit field is set to a predefined value and said count field is initialized to a predefined initial value, said control circuit increments said count field whenever a multicast ATM cell for said multicast master entry is received and decrements said count field whenever a multicast ATM cell is transmitted to one of said one or more multicast member entries, and said limit field and said count field are compared to determine an active status of one of said multicast member entries.

10. (Currently Amended): The ATM switch of claim 9, wherein said control circuit increments said count field whenever a multicast ATM cell for said multicast master entry is received and decrements said count field whenever a multicast ATM cell is transmitted to one of said one or more multicast member entries, and wherein when said count field is equal to or greater than said limit field, a first one of said multicast member entries currently being transmitted is designated as inactive.

11. (Original): The ATM switch of claim 10, wherein said first one of said multicast member entries is removed from said connection table when said first one of said multicast member entries is designated as inactive.

12. (Original): The ATM switch of claim 10, wherein said control circuit sets said count field to zero each time an ATM cell is transmitted.

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13. (Original): The ATM switch of claim 10, wherein said limit field and said count field are compared whenever said ATM switch receives an multicast ATM cell.

14. (Previously Presented): An ATM switch, comprising:

a memory;

a control circuit for maintaining in said memory a connection table, said connection table including a multicast master entry and one or more multicast member entries associated with said multicast master entry;

said multicast master entry holding address locations at which multicast ATM cells are stored, and including a limit field and a count field; and

said one or more multicast member entries identifying a destination connection on which said multicast ATM cells are to be transmitted,

wherein said limit field is set to a predefined value and said count field is initialized to a predefined initial value, and said limit field and said count field are compared to determine an active status of one of said multicast member entries,

wherein said control circuit increments said count field whenever a multicast ATM cell for said multicast master entry is received and decrements said count field whenever a multicast ATM cell is transmitted to one of said one or more multicast member entries, and wherein when said count field is equal to or greater than said limit field, a first one of said multicast member entries currently being transmitted is designated as inactive, and

wherein said multicast master entry includes a multicast field, said multicast field includes one or more data bits, each data bits being associated with one multicast member entry, and wherein a first one of said data bits in said multicast field is set to a value to designate said first one of said multicast member entries as inactive.

15. (Original): An ATM switch for transmitting a multicast ATM cell, comprising:

a memory;

a control circuit for maintaining in said memory a connection table, said connection table including a multicast master entry and one or more multicast member entries associated with said multicast master entry;

a cell memory for storing one or more ATM cells, including said multicast ATM cell; and

said multicast master entry holding address locations at which multicast ATM cells are stored, and including a limit field and a count field; and

wherein said one or more multicast member entries are linked to each other through a circular double linked list, and said limit field is set to a predefined value and said count field is initialized to a predefined initial value, and said limit field and said count field are compared to determine an active status of one of said multicast member entries.

16. (Original): The ATM switch of claim 15, wherein said control circuit increments said count field whenever a multicast ATM cell is received for said multicast master entry and decrements said count field whenever an ATM cell is transmitted to one of said one or more multicast member entries, and wherein when said count field is equal to or greater than said limit field, said first one of said multicast member entries is designated as inactive.

17. (Original): The method of claim 16, wherein when said first one of said multicast member entries designated as inactive is the only multicast member entry associated with said multicast master entry, said method further comprises:

removing a cell queue containing ATM cells associated with said multicast master entry.

18. (Original): The method of claim 16, wherein when said first one of said multicast member entries designated as inactive is the only multicast member entry associated with said multicast master entry, said method further comprises:

ceasing receipt of incoming ATM cells associated with said multicast master entry.

19. (Currently Amended): A method in an ATM switch for detecting a failed connection, comprising:

generating a connection table in a memory;

generating one or more connection entries, each of the connection entries identifying a destination connection and an output port number on which ATM cells are to be transmitted, each of said connection entry including a limit field and a count field;

initializing said count field;

incrementing said count field of a first connection entry each time an ATM cell is received for said first connection entry;

decrementing said count field of said first connection entry each time an ATM cell is transmitted to said destination connection of said first connection entry;

setting said limit field to a predetermined value; and

comparing a value in said count field with said value in said limit field to determine an active status of the connection entry.

20. (Currently amended): The method of claim 19, further comprising:

~~incrementing said count field of a first connection entry each time an ATM cell is received for said first connection entry;~~

~~decrementing said count field of said first connection entry each time an ATM cell is transmitted to said destination connection of said first connection entry;~~

comparing a value in said count field with said value in said limit field of said connection entry; and

if said value in said count field is equal to or greater than said value in said limit field, setting said first connection entry to an inactive status.

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21. (Original): The method of claim 20, wherein when said first connection entry is designated as inactive, said method further comprises:

removing a cell queue containing ATM cells associated with said first connection entry.

22. (Original): The method of claim 20, wherein when said first connection entry is designated as inactive, said method further comprises:

ceasing receipt of incoming ATM cells associated with said connection entry.

23. (Original): A method in an ATM switch comprising:

generating a connection table in a memory;

generating a multicast master entry in said connection table, said multicast master entry holding address locations at which multicast ATM cells are stored, said multicast master entry having a limit field and a count field;

generating one or more multicast member entries associated with said multicast master entry in said connection table, each multicast member entry identifying a destination connection on which said multicast ATM cells are to be transmitted;

initializing said count field in said multicast master entry;

setting said limit field in said multicast master entry to a predetermined value;

incrementing said count field each time a multicast ATM cell is received for said multicast master entry;

decrementing said count field each time a multicast ATM cell is transmitted to said destination connection of one of said one or more multicast member entries;

comparing a value in said count field with said value in said limit field;

if said value in said count field is equal to or greater than said value in said limit field, designating a first one of said multicast member entries currently being transmitted as inactive; and

removing said first one of said multicast member entries from said connection table when said first one of said multicast member entries is designated as inactive.

24. (Original): An ATM switch, comprising:

a memory;

a control circuit for maintaining in said memory a connection table, said connection table including a multicast master entry and one or more multicast member entries associated with said multicast master entry;

said multicast master entry holding address locations at which multicast ATM cells are stored, and including a limit field and a count field; and

said one or more multicast member entries identifying a destination connection on which said multicast ATM cells are to be transmitted;

wherein said limit field is set to a predefined value and said count field is initialized to a predefined initial value, and said limit field and said count field are compared to determine an active status of one of said multicast member entries; and

wherein said control circuit increments said count field whenever a multicast ATM cell for said multicast master entry is received and decrements said count field whenever a multicast ATM cell is transmitted to one of said one or more multicast member entries, and when said count field is equal to or greater than said limit field, a first one of said multicast member entries currently being transmitted is designated as inactive and removed from said connection table.

25. (Original): An ATM switch for transmitting a multicast ATM cell, comprising:

a memory;

a control circuit for maintaining in said memory a connection table, said connection table including a multicast master entry and one or more multicast member entries associated with said multicast master entry;

a cell memory for storing one or more ATM cells, including said multicast ATM cell; and

said multicast master entry holding address locations at which multicast ATM cells are stored, and including a limit field and a count field;

wherein said one or more multicast member entries are linked to each other through a circular double linked list, and said limit field is set to a predefined value and said count field is initialized to a predefined initial value, and said limit field and said count field are compared to determine an active status of one of said multicast member entries; and

wherein said control circuit increments said count field whenever a multicast ATM cell is received for said multicast master entry and decrements said count field whenever an ATM cell is transmitted to one of said one or more multicast member entries, and wherein when said count field is equal to or greater than said limit field, said first one of said multicast member entries is designated as inactive and is removed from said connection table.